

IN THE UNITED STATES DISTRICT COURT  
FOR THE SOUTHERN DISTRICT OF WEST VIRGINIA  
AT BLUEFIELD

LUMA CORPORATION,

Plaintiff,

v.

CIVIL ACTION NO. 1:02-1132

STRYKER CORPORATION and  
KARL STORZ ENDOSCOPY-AMERICA, INC.,

Defendants.

KARL STORZ ENDOSCOPY-AMERICA, INC.,

Plaintiff,

v.

CIVIL ACTION NO. 1:02-1479

LUMA CORPORATION,

Defendant.

MEMORANDUM OPINION

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## I. Introduction

Pending before the court are a number of motions relating to patent infringement and validity:

- (1) Karl Storz Endoscopy-America, Inc.'s ("Karl Storz") motion for leave to file a brief in excess of twenty pages (Doc. No. 450);
- (2) Karl Storz's renewed motion for partial summary judgment that Claims 14, 15, 17, 19, 29, 30, 32, 34, 44, and 45 are invalid (Doc. No. 451);
- (3) Karl Storz's renewed motion for partial summary judgment that Claims 1-13, 16, 18, 20-28, 31, 33, 35-43, and 46-55 are not infringed (Doc. No. 457);
- (4) Karl Storz's renewed motion for partial summary judgment that Claims 14, 15, 17, 19, 29, 30, 32, and 34 are not infringed (Doc. No. 462);
- (5) Stryker Corporation's ("Stryker") motion for summary judgment that Claims 44 and 45 are invalid (Doc. No. 467);

- (6) Stryker's motion for summary judgment that Claims 14, 15, 17, 19, 29, 30, 32, 34, 44 and 45 are not infringed (Doc. No. 470);
- (7) Luma Corporation's ("Luma") motion for summary judgment as to the validity of Claims 14, 15, 17, 19, 29, 30, 32, 34, 44 and 45 (Doc. No. 475);
- (8) Luma's motion for summary judgment of infringement of Claims 14, 15, 17, 19, 29, 30, 32, 34, 44 and 45 against Karl Storz (Doc. No. 479);
- (9) Luma's motion for summary judgment of infringement against Stryker (Doc. No. 482);
- (10) Stryker's unopposed motion for leave to file a brief in excess of page limit (Doc. No. 491); and
- (11) Karl Storz's motion for leave to file reply in excess of page limit (Doc. No. 515).

Having reviewed the record and applicable law and for the reasons outlined below, the court finds that Stryker and Karl Storz's accused products do not infringe the Preference Database Claims (Claims 14, 15, 17, 19, 29, 30, 32, and 34). A triable issue of fact remains as to whether Stryker and Karl Storz's accused products infringe the Still Frame Buffer Claims (Claims 44 and 45). However, summary judgment is granted to Stryker and Karl Storz on the Still Frame Buffer Claims because the court finds that they are invalid. A case or controversy exists

regarding Claims 1-13, 16, 18, 20-28, 31, 33, 35-43, and 46-55, and the court grants summary judgment of noninfringement to Karl Storz as to them because Luma has presented no evidence of their infringement. Accordingly, in a Judgment Order filed herewith, the court orders as follows:

- (1) The court GRANTS Karl Storz's motion for leave to file a brief in excess of twenty pages (Doc. No. 450).
- (2) The court GRANTS IN PART and DENIES WITHOUT PREJUDICE IN PART Karl Storz's renewed motion for partial summary judgment that Claims 14, 15, 17, 19, 29, 30, 32, 34, 44 and 45 are invalid (Doc. No. 451). The court finds that Claims 44 and 45 are invalid and GRANTS Karl Storz's motion as to them. As to Claims 14, 15, 17, 19, 29, 30, 32, and 34, the motion is DENIED WITHOUT PREJUDICE because the court finds that Karl Storz did not infringe them.
- (3) The court GRANTS Karl Storz's renewed motion for partial summary judgment that Claims 1-13, 16, 18, 20-28, 31, 33, 35-43, and 46-55 are not infringed (Doc. No. 457).
- (4) The court GRANTS Karl Storz's renewed motion for partial summary judgment that Claims 14, 15, 17, 19, 29, 30, 32, and 34 are not infringed (Doc. No. 462).

- (5) The court GRANTS Stryker's contingent motion for summary judgment that Claims 44 and 45 are invalid (Doc. No. 467).
- (6) The court GRANTS Stryker's motion for summary judgment on noninfringement of Claims 14, 15, 17, 19, 29, 30, 32, and 34 (Doc. No. 470).
- (7) Luma's motion for summary judgment on validity is DENIED IN PART and DENIED WITHOUT PREJUDICE IN PART. The court DENIES Luma's motion for summary judgment without prejudice as to the validity of Claims 14, 15, 17, 19, 29, 30, 32, and 34 (Doc. No. 475) because the court finds that those claims were not infringed by either defendant. As to Claims 44 and 45 Luma's motion for summary judgment of validity is DENIED.
- (8) The court DENIES Luma's motion for summary judgment of infringement of Claims 14, 15, 17, 19, 29, 30, 32, 34, 44 and 45 against Karl Storz (Doc. No. 479).
- (9) The court DENIES Luma's motion for summary judgment of infringement of Claims 14, 15, 17, 19, 29, 30, 32, 34, 44 and 45 against Stryker (Doc. No. 482).
- (10) The court GRANTS Stryker's unopposed motion for leave to file a brief in excess of page limit (Doc. No. 491); and

(11) The court GRANTS Karl Storz's motion for leave to file a reply in excess of page limit (Doc. No. 515).

## **II. Factual Background**

Plaintiff Luma alleges that defendants Karl Storz and Stryker infringed its patent ("`801 Patent"). (See Doc. No. 1, Ex. A, U.S. Patent No. 5,740,801.) The `801 patent covers a system for acquiring, processing, storing, and displaying images during a medical procedure. (Id. Ex. A Col. 1 Ln. 27-38.) For example, during an endoscopic procedure, a surgeon can use a video camera to capture images of the surgical site. Luma's claimed system displays, stores, and manipulates these images.

In its Complaint for patent infringement, Luma alleges that Karl Storz and Stryker make, use, sell, or import devices which contain all the elements of several of the claims protected by the `801 patent. (Doc. No. 1 ¶ 14.) In response, Stryker and Karl Storz argue that they do not infringe the `801 patent and that it is invalid. (Doc. No. 10 at ¶¶ 18-19, 36; Doc. No. 13 ¶ 22.) Stryker and Karl Storz argue that their products do not infringe the `801 patent because they lack at least one element of each asserted claim. Specifically, Stryker and Karl Storz argue that none of their accused products contains a "preference database" or a "still frame buffer" as those terms are used in the `801 patent. (Doc. No. 474 at 2; Doc. No. 507 at 11 & 23.)

Karl Storz filed a parallel action for a declaratory judgment of noninfringement and invalidity against Luma in the Central District of California. After Luma filed its Complaint in this court, Karl Storz's declaratory action was transferred here and consolidated with Luma's infringement case. (See Doc. No. 142; Civil Action No. 1:02-1479, Doc. No. 1.)

On February 24, 2005, this case was referred to Special Master Paul Beck for interpretation of the disputed patent claim terms. The special master submitted the final report to the court on August 1, 2005 ("Report"). (See Doc. No. 433.) After reviewing the parties' responses to the Report, the court modified and adopted it on February 3, 2006. (See Doc. No. 448.) Simultaneously, the court directed the parties to file motions for summary judgment taking into account the new posture of the case. All three parties submitted motions for summary judgment on patent infringement and validity. Each party also submitted timely responses and replies. Accordingly, the summary judgment motions are ripe for decision.

### **III. Admissibility of Declarations as Evidence**

All parties, including Luma, submitted a number of declarations in support of their motions for summary judgment. Karl Storz objects to the admissibility of a declaration by Dr. Edward Shultz (Doc. No. 480) in support of Luma's motion for summary judgment (Doc. No. 479) because it does not satisfy the

requirements of an affidavit under Rule 56(e) of the Federal Rules of Civil Procedure. (Doc. No. 507.)

The Fourth Circuit<sup>1</sup> has held that unsworn statements cannot be considered as evidence at summary judgment. Orsi v. Kirkwood, 999 F.2d 86, 92 (4th Cir. 1993) ("It is well established that unsworn, unauthenticated documents cannot be considered on a motion for summary judgment."). However, declarations signed under penalty of perjury are admissible as affidavits at summary judgment. Manning v. U.S. Dep't of Justice, 104 F. App'x 907, 909 (4th Cir. 2004) (holding that a declaration made under penalty of perjury raised a genuine issue of material fact); see also Williams v. Sielaff, 1990 WL 135721, \*1 (4th Cir. Sept. 20, 1990) (holding that a declaration made under penalty of perjury qualifies as an affidavit under Rule 56(e) and is admissible at summary judgment). A number of sister circuits agree, and many require declarations to comply with the requirements of 28 U.S.C.

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<sup>1</sup> The Federal Circuit applies regional circuit law to issues involving interpretation of the Federal Rules of Civil Procedure and the admissibility of evidence. Biodex Corp. v. Loredan Biomedical, Inc., 946 F.2d 850, 857 (Fed. Cir. 1991) ("[O]ur practice has been to defer to regional circuit law when the precise issue involves an interpretation of the Federal Rules of Civil Procedure."); Advanced Cardiovascular Sys. v. Medtronic, Inc., 265 F.3d 1294, 1308 (Fed. Cir. 2001) ("Evidentiary rulings . . . are not unique to our jurisdiction and, accordingly, we review them under the law of the [regional circuit].").



§ 1746 or, at a minimum, to include a statement that the declaration is made "under penalty of perjury."<sup>2</sup>

With its reply, Luma submitted a second declaration by Dr. Edward Shultz, purporting in the caption to be "sworn." (Doc. No. 509, Shultz Decl.) However, the document satisfies none of the requirements of § 1746 and does not state that it is made "under penalty of perjury." (See id., Shultz Decl.) Luma's reply does not address the subject. (See generally id., Reply.)

Because it is not made under penalty of perjury, the Shultz Declaration in support of Luma's summary judgment motion against Karl Storz (Doc. Nos. 480 & 509) is not admissible. The Shultz Declaration in support of Luma's summary judgment motion against Stryker (Doc. No. 484) and the Johnston Declaration in Support of Luma's opposition to Stryker's motion for summary judgment of invalidity (Doc. No. 497, Attach. 2) suffer the same flaws, and are also inadmissible. As discussed below, the court believes

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<sup>2</sup> Council of Ins. Agents & Brokers v. Juarbe-Jimenez, 443 F.3d 103, 110 (1st Cir. 2006) (holding that declaration signed under penalty of perjury was admissible at summary judgment); Dale v. Lappin, 376 F.3d 652, 655 (7th Cir. 2004) (holding that declarations signed under penalty of perjury in accordance with § 1746 are admissible at summary judgment as an equivalent to an affidavit); Sterling China Co. v. Glass, Molders, Pottery, Plastics & Allied Workers Local 24, 357 F.3d 546, 557 n.1 (6th Cir. 2004) (same); United States v. Ritchie, 342 F.3d 903, 909 (9th Cir. 2003) (same); United States v. Four Parcels of Real Property in Greene and Tuscaloosa Counties in the State of Alabama, 941 F.2d 1428, 1444 n.36 (11th Cir. 1991) (same); Cianciosi v. Home Depot U.S.A., Inc., 199 F.3d 1321, 1321 (2d Cir. 1999) (same); United States v. 225 Cartons, More or Less, of an Article of Drug, 871 F.2d 409, 414 n.4 (3d Cir. 1989) (same).

that even if the Shultz and Johnston Declarations were admissible, they would not raise a genuine issue of material fact regarding infringement or validity of the '801 patent.

#### **IV. Infringement**

##### **A. Applicable law**

Determining whether an accused process or device infringes a patent claim is a two-step process. "The first step is determining the meaning and scope of the patent claims asserted to be infringed. The second step is comparing the properly construed claims to the device accused of infringing." Markman v. Westview Instruments, Inc., 52 F.3d 967, 976 (Fed. Cir. 1995) (en banc), aff'd 517 U.S. 370 (1996). The Claim Construction Order (Doc. No. 448) covered the first step. This Memorandum Opinion is devoted to the second step.

Summary judgment is appropriate in a patent case, as in other cases, when there is no genuine issue as to any material fact and the moving party is entitled to judgment as a matter of law. Nike Inc. v. Wolverine World Wide, Inc., 43 F.3d 644, 646 (Fed. Cir. 1994). The moving party bears the initial burden of demonstrating the absence of a genuine issue of material fact. See Celotex Corp. v. Catrett, 477 U.S. 317, 323 (1986).

The burden then shifts to the non-moving party to "designate 'specific facts showing there is a genuine issue for trial.'" Id. at 324 (quoting Fed. R. Civ. P. 56(e)). To carry this burden, the non-moving party must "do more than simply show that

there is some metaphysical doubt as to the material facts."

Matsushita Elec. Indus. Co., Ltd. v. Zenith Radio Corp., 475 U.S. 574, 586 (1986). "The mere existence of a scintilla of evidence . . . will be insufficient; there must be evidence on which the jury could reasonably find for the [non-moving party]." Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 252 (1986). Summary judgment is proper "if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law." Fed. R. Civ. P. 56(c).

To establish infringement, the accuser must show by a preponderance of the evidence that every limitation in a claim is present in the accused product, either literally or by equivalent. See Carroll Touch, Inc., v. Electro Mech. Sys., 15 F.3d 1573, 1576 (Fed. Cir. 1993). Thus, noninfringement of a claim may be found if just one element is absent from the accused product.

A claim is literally infringed if the accused product is exactly the same as each element of the asserted claim. See Hi-Life Prod., Inc. v. Am. Nat'l Water-Mattress Corp., 842 F.2d 323, 325 (Fed. Cir. 1986). Even if a product does not literally infringe, it may infringe under the doctrine of equivalents. See Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17, 25-

29 (1997). "A claim element is equivalently present in an accused device if only 'insubstantial differences' distinguish the missing claim element from the corresponding aspects of the accused device." Sage Prod., Inc. v. Devon Indus. Inc., 126 F.3d 1420, 1423 (Fed. Cir. 1997).

## **B. Analysis**

### **1. The '801 Patent**

The '801 patent covers a system for acquiring images during a medical procedure. There are two groups of claims asserted to be infringed in this case. The first group (Claims 14, 15, 17, 19, 29, 30, 32, and 34) requires a preference database and associated processor ("Preference Database Claims"). The second group (Claims 44 and 45) requires a still frame buffer and associated processor ("Still Frame Buffer Claims"). Claims 14, 29, and 44 are independent claims, and the other asserted claims are each dependent on one of them.<sup>3</sup>

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<sup>3</sup> Claims 15, 17, and 19 are dependent on Claim 14. Claims 30, 32, and 34 are dependent on Claim 29. Claim 45 is dependent on Claim 44. By definition, each dependent claim must contain all the limitations of its associated independent claim. 35 U.S.C. § 112; 37 C.F.R. § 1.75. Thus, if the accused product lacks any element in the independent claim, it also lacks an element in the associated dependent claims.

### a. Preference Database Claims

All asserted claims require an input device and output device.<sup>4</sup> In addition, the Preference Database Claims require a specific kind of database that contains indications of preferences about graphical objects, and a specific kind of processor that handles database information based on user identity or procedure type. (See Doc. No. 1 Ex. A Col. 48 Ln. 12-37, Claim 14; id. Col. 49 Ln. 19-44, Claim 29.) Claims 14, 15, 17, and 19 apply to preferences pre-stored in relation to user identity and Claims 29, 30, 32, and 34 apply to preferences pre-stored in relation to type of procedure. (See Doc. No. 1 Ex. A Col. 48 Ln. 12-37, Claim 14; id. Col. 49 Ln. 19-44, Claim 29.)

The claimed "preference database" must pre-store "preference information that indicates one or more visual representations that are preferred to be applied to said at least one output device . . . visual representations comprising graphical objects." (Doc. No. 1 Ex. A Col. 48 Ln. 23-24, Claim 14; id. Col. 49 Ln. 31-32, Claim 29.) As such, the claim language clearly states that the indications of preferences stored in the preference database must relate to graphical objects to be

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<sup>4</sup> Those claim elements are not in dispute in the infringement analysis, but are discussed in greater detail below in the validity analysis.

applied to an output device.<sup>5</sup> Indeed, as this court pointed out at claim construction, limiting the claimed preference information to indications of preferred graphical objects was necessary during patent prosecution to avoid rejection by the patent examiner for anticipation by prior art. (See Doc. No. 448 at 13 n.9) (citing Doc. No. 437 Ex. 3, Patent Application at 104 Ln. 8-10 & Ex. 4, PTO Office Action at 4).

#### **b. Still Frame Buffer Claims**

In addition to an input and output device, the Still Frame Buffer Claims require a method of temporary ("still frame buffer") and long-term ("memory") image data storage. "Still frame buffer" was construed to mean "storage for digital image data for a given period of time." (Doc. No. 435 at 53.) The language of the still frame buffer element limits storage in the still frame buffer to a "temporary" period. (Doc. No. 1 Ex. A Col. 50 Ln. 32-33.) "Memory" was construed to mean "a device for

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<sup>5</sup> In its filings, Luma repeatedly directs the court's attention to selective portions of the patent claims. Luma asks this court to find infringement of the '801 patent by databases in the accused products. Luma assumes that a database with a broad range of content - information about any sort of preference associated with user identity or procedure type - is protected by the Preference Database Claims. (Doc. No. 479 at 11-12, 16; Doc. No. 482 at 6-7.) Luma is mistaken. In its Claim Construction Order adopting as modified the special master's report, this court construed "preference database" in context, and found that it simply meant what it said. (Doc. No. 448) (adopting special master's construction found at Doc. No. 437 at 70, 72, 74). Now, Luma attempts to ignore the context of that term, which limits it to preference information about graphical objects.

storing information or data." (Doc. No. 435 at 56.) The remainder of the memory element makes clear that the storage in memory must be long-term. (Doc. No. 1 Ex. A Col. 50 Ln. 34-35.)

The Still Frame Buffer Claims are difficult to define because they are vague and the specification provides little guidance about them. As a whole, Claim 44 discloses a two-step process in which the processor freezes an image for a given period of time in the still frame buffer and then saves it to a memory for long-term storage. (See id. Ex. A Fig. 6 & Col. 50 Ln. 33-40.) The specification shows that the freeze-and-save capability of Claim 44 permits a user to save or discard any frozen image. (Id. Col. 16 Ln. 24-25.) In addition, Figure 6 shows it takes two commands to accomplish this process. (Id. Ex. A Fig. 6.) The claims and specification do not discuss a particular structure as satisfying the requirements of the "still frame buffer" element, but the specification lists "disk storage" as a type of "memory." (Id. Ex. A Col. 29 Ln. 5-9.)

## **2. Infringement Claims Against Stryker**

Stryker's accused products do not infringe the Preference Database Claims because none of them has a preference database that stores information about graphical objects to be applied to an output device. A triable issue of fact remains as to whether Stryker's SDC Pro/Hermes and SDC Pro 2 systems infringe the Still Frame Buffer Claims. However, the court grants summary judgment

to Stryker on those claims because the court finds them to be invalid as discussed in Part V.

**a. Stryker's Hermes System**

Luma argues that Stryker's Hermes system infringes Claims 14 and 15, which require a preference database. (Doc. No. 482 at 5-8.) Luma contends that the voice recognition system found in the Hermes system is a preference database because Luma asserts that it permits a surgeon to set and store his or her individual preferences for performing an endoscopic procedure. (Id. at 6.) Specifically, Luma states that the surgeon can pre-set preferences for camera settings, light sources, shavers, insufflators, and Stryker's SDC Pro product. (Id.)

The evidence Luma cites does not support its conclusion. Luma cites the Hermes Operating and Maintenance Manual, which states that the voice recognition features of the Hermes system permit a physician to create "voice models" that the Hermes system will use to better recognize vocal commands. (Doc. No. 483 Ex. 11 at STR000710, STR000730-34.) A set of voice models is created during a "voice training session" in which a physician repeats Hermes commands several times. (Id. Ex. 11 at STR000710.) These voice models are saved on a "personal interface card" for future use. (Id.)

Luma points to no evidence that the voice models are used to pre-store indications of preferences about anything, much less



preferences about graphical objects. (See id.; Doc. No. 482 at 6-7.) The voice models merely make the conversion of audible commands to electronic signals more accurate and reliable. (See Doc. No. 471, Hameed Decl. ¶¶ 22-24.) The court finds that the voice models are not a preference database. In fact, Luma's position is in disharmony with the specification, which lists voice recognition systems as a type of input device, not a preference database. (Doc. No. 1 Ex. A Col. 6 Ln. 48-49.)

Luma raises no genuine issue of material fact regarding the presence in the Hermes system of a preference database for pre-storing indications of preferred graphical objects to be applied to an output device. Stryker brings sufficient evidence to show that no reasonable jury could conclude that the Hermes system contains a preference database as required in Claims 14 and 15. Accordingly, the court grants summary judgment to Stryker of noninfringement of Claims 14 and 15 by the Hermes system, and denies Luma's motion for summary judgment on this issue.

**b. Stryker's SDC Pro/Hermes System**

Luma contends that Strker's SDC Pro/Hermes system infringes the Still Frame Buffer Claims. (Doc. No. 482 at 8-10.) Luma argues that the Album Screen feature of Stryker's SDC Pro/Hermes system constitutes a still frame buffer. (Id. at 9; Doc. No. 483 Ex. 13 at STR000765.) The Album Screen feature of Stryker's system holds only 120 images. (Doc. No. 483 at STR000765.) Luma

argues that it is a still frame buffer, storing images for a given period of time, because it must be emptied occasionally to make room for newly acquired images. (Doc. No. 482 at 9.) Stryker responds that the Album Screen is merely a display feature and that the images are stored on a hard drive - a storage medium Stryker argues is necessarily a form of long-term, not temporary, storage. (Doc. No. 493 at 13.)

The evidence shows that "Album Screen" refers to a storage device or a portion of a storage device. The SDC Pro Manual states that "[a]ll images captured are stored in the Album Screen." (Doc. No. 483 Ex. 13 at STR000765.) (emphasis added). It continues, "[a] maximum of 120 images can be stored in the album. When all 120 images have been captured, the capture button will disable and a warning will appear." (Id.) Stryker's Hameed Declaration is consistent with this evidence. (Doc. No. 471) ("Once the capture images are saved to the hard drive, they are stored there and cannot be deleted until (or unless) a new medical procedure is started or the images are manually moved to another form of long-term storage.").

Stryker's argument rests on the fact that hard drive storage lasts indefinitely and that the specification treats a disk drive as an output device. (Doc. No. 518 at 15-16.) But as Luma points out, the device's image capturing and storing capabilities become useless if the Album Screen remains full. (Doc. No. 494

at 10-11.) Whether the limited capacity of the Album Screen renders it a temporary form of storage is a triable issue of fact. The patent provides too little guidance to define "temporary" as a matter of law. However, as discussed in Part V, summary judgment is granted to Stryker as to the Still Frame Buffer Claims because the court finds that they are invalid.

**c. Stryker's SDC Pro 2 System**

**i. Preference Database Claims**

Luma asserts that Stryker's SDC Pro 2 infringes the Preference Database Claims. (Doc. No. 482 at 11-13.) Luma argues that Stryker's SDC Pro 2 pre-stores preference information about visual representations, including graphical objects. (Id. at 14) (citing SDC Pro 2 Manual and Shultz Declaration).

The evidence Luma cites does not support its conclusion. The SDC Pro Manual indicates that the SDC Pro stores surgeons' names and types of procedures. (See Doc. No. 483 Ex. 16 at STR000803-808.) If admissible, Dr. Shultz's declaration would express the opinion that the SDC Pro 2 system "stores information relevant to the use of the medical imaging device in association with medical procedures and practitioners." (Doc. No. 484, Shultz Decl. ¶ 16.) Neither says anything about pre-storing indications of preferences about graphical objects based on user identity or type of procedure. (See also Doc. No. 474 at 11) (citing Doc. No. 472, Atkins Decl. ¶¶ 29-33).

The court finds that Luma has failed to raise a genuine issue of material fact as to the presence in Stryker's SDC Pro 2 system of a preference database associating preferences regarding graphical objects to be applied to acquired images with user identity or procedure type. Stryker cites sufficient evidence to show that no reasonable jury could conclude that the SDC Pro 2 contains a preference database as required by the Preference Database Claims. Accordingly, the court grants summary judgment to Stryker of noninfringement of Claims 14, 15, 17, 19, 29, 30, 32, and 34 by the SDC Pro 2 system, and denies Luma's motion as to that issue.

**ii. Still Frame Buffer Claims**

Luma asserts that Stryker's SDC Pro 2 infringes the Still Frame Buffer Claims. (Doc. No. 482 at 13-15.) Luma raises the same arguments as with the SDC Pro/Hermes system except that the SDC Pro 2 must be emptied after storing 60 images, rather than 120 images. (Id. at 13) (citing Doc. No. 483 Ex. 16, SDC Pro 2 Manual, at STR000822). For the reasons stated above in Part IV.B.2.b, a triable issue of fact remains as to whether the limited storage capacity of the SDC Pro 2 renders its image storage "temporary." However, as discussed in Part V, summary judgment is granted to Stryker as to Claims 44 and 45 because the court finds that they are invalid.

### **3. Infringement Claims Against Karl Storz**

Karl Storz's accused products do not infringe the Preference Database Claims because none of them contains a preference database that pre-stores information about graphical objects to be applied to an output device. Luma falls well short of showing that Karl Storz's AIDA and AIDA DVD systems infringe the Still Frame Buffer Claims. A triable issue of fact remains as to whether Karl Storz's AIDA Compact contains a still frame buffer. However, because the court concludes that the Still Frame Buffer Claims are invalid, it grants summary judgment to Karl Storz as to them.

#### **a. Karl Storz's SCB System**

Luma alleges that Karl Storz's Communication Bus system ("SCB") infringes all of the Preference Database Claims. (Doc. No. 479 at 9.) Luma argues that because the SCB system can be "configured for particular users and applications" to set up a "working environment," the system has a preference database within the meaning of the Preference Database Claims. (*Id.* at 10) (citing Matz Decl. Ex. 15, OR1 Instruction Manual at K8019, K8051, K8057). Luma points to the SCB system's capability to pre-program medical devices "to meet the precise needs of each surgeon and/or procedure." (*Id.* at 11-12) (citing Matz Decl. Ex. 14, OR1 Brochure at K484). If the Shultz Declaration were admissible, it would express the opinion that these features

constitute a preference database. (See Doc. No. 509, Shultz Decl. ¶ 7.) This material advanced by Luma is irrelevant because none of it provides evidence about what the Preference Database Claims actually require, a preference database regarding graphical objects to be applied to an output device.

Luma asserts that Karl Storz's brochure for the OR1 system states that both text and graphical objects are applied to an output device. (Doc. No. 479 at 12) (citing Matz Decl., OR1 Brochure at K483-484). The court cannot find support for that statement in the document cited or elsewhere in the record. But that statement, if proven, would not show infringement of the Preference Database Claims because what is claimed is a preference database of indications of graphical objects to be applied to an output device. (See Doc. No. 1 Ex. A, Claims 14 and 29, Col. 48 Ln. 18-24; see id. Col. 49 Ln. 25-62.) The capability to store preferences in general and also to apply graphical objects in general to an output device is something too broad to find coverage in the '801 patent.

After reviewing the documentary and opinion evidence on the SCB system, the court finds that there is no genuine issue of material fact as to the presence in Karl Storz's SCB system of a preference database. Karl Storz brings sufficient evidence to show that no reasonable jury could conclude that the SCB system contains a preference database as required by the Preference

Database Claims. Accordingly the court grants summary judgment of noninfringement of Claims 14, 15, 17, 19, 29, 30, 32, and 34 by the SCB System, and denies Luma's motion as to that issue.

**b. Karl Storz's AIDA Systems**

The AIDA systems do not infringe the Preference Database Claims because none of them contains a database that pre-stores preferences about graphical objects to be applied to an output device. Luma fails to make a *prima facie* showing that the AIDA and AIDA DVD systems infringe the Still Frame Buffer Claims. A triable issue of fact remains as to whether the AIDA Compact infringes the Still Frame Buffer Claims. However, the court grants summary judgment to Karl Storz on the Still Frame Buffer Claims because the court finds them to be invalid as discussed in Part V.

**i. Preference Database Claims**

Luma alleges that Karl Storz's Advanced Image and Data Archiving ("AIDA") systems infringe all of the Preference Database Claims. (Doc. No. 479 at 16.) Essentially, the parties dispute whether the AIDA system contains the claimed preference database. Luma argues that the AIDA system's ability to store textual lists of patients, treatments, images, etc. coupled with its ability to annotate images with text and graphical objects constitutes a preference database. (*Id.* at 16-17) (citing Doc. No. 481 Ex. 16, AIDA Brochure & Ex. 17, AIDA Instruction Manual).

The evidence Luma cites does not support its conclusion. The AIDA system's information storing and annotating capabilities do not show the existence in the AIDA of the specific kind of preference database required by the Preference Database Claims because they do not indicate that the AIDA device is capable of pre-storing preferences about graphical objects to be applied to an output device. (See Doc. No. 481 Ex. 16, AIDA Brochure & Ex. 17, AIDA Instruction Manual.)

After reviewing the documentary and opinion evidence on the AIDA system, the court finds that there is no genuine issue of material fact as to the presence in Karl Storz's AIDA system of the claimed preference database. Karl Storz brings sufficient evidence to show that no reasonable jury could conclude that the AIDA system contains a preference database as required by the Preference Database Claims. Accordingly, the court grants summary judgment to Karl Storz of noninfringement of Claims 14, 15, 17, 19, 29, 30, 32, and 34 by the AIDA system, and denies Luma's motion as to that issue.

#### **ii. Still Frame Buffer Claims**

Luma alleges that Karl Storz's AIDA systems infringe the Preference Database Claims. (Doc. No. 479 at 19). Karl Storz manufactures three AIDA systems. (Doc. No. 481, Matz Decl., Ex. 20, Kern Dep. at 17.) From the parties' presentation, the court has been able to glean the following about them. The AIDA



captures still images and can store them to a hard drive or CD. (Id. Matz Decl., Ex. 20, Kern Dep. at 19.) The AIDA DVD captures still images and video and can store them to a hard drive (as a backup), DVD, or CD, but cannot store them to a network. (Id.; Doc. No. 481, Matz Decl., Ex. 19, AIDA DVD Manual at K8196.) The AIDA Compact captures still images and video and can store them on a network or burn them to a CD, but not a DVD. (Id. Matz Decl., Ex. 20, Kern Dep. at 20.) The parties dispute whether the AIDA products contain a still frame buffer.

Luma confusingly presents evidence about all three AIDA systems interchangeably as if they are a single device or set of devices used in combination. However, the devices are distinct and must be considered separately. In order to establish infringement, Luma must show that a single device or device combination contains all of the elements of at least one claim.

#### **(1) Karl Storz's AIDA System**

Luma briefly attempts to present evidence that the AIDA system has a still frame buffer. Citing the AIDA Manual, Luma argues that the AIDA system can save images to an external file and toggle between live and still images. (Doc. No. 479 at 20) (citing Doc. No. 481, Matz Decl. Ex. 17, AIDA Manual at K7920). This appears to indicate similarities between the AIDA's capabilities and Claim 45, but neither of these functions suggests the existence of a still frame buffer. In addition, the

record references contained in Luma's Proof Chart do not indicate the existence of a still frame buffer.<sup>6</sup> (Doc. No. 481, Matz Decl. Ex. 1 at 8-13.) As such, the court finds that Luma failed to make a *prima facie* showing that the AIDA infringes the Still Frame Buffer Claims, and Luma's motion for summary judgment of infringement is denied as to Claims 44 and 45.

## **(2) Karl Storz's AIDA Compact System**

In its brief, Luma argues that the AIDA Compact contains a still frame buffer for temporary storage. (Doc. No. 479 at 20.) Luma states the AIDA Compact freezes images temporarily. As evidence, Luma explains that images must be saved after every ten that are taken and are temporarily stored in the "ring buffer." (*Id.* at 20) (citing Doc. No. 481, Matz Decl. Ex. 18, AIDA Compact Manual at K8005). The AIDA Compact Manual actually states that image data is stored for up to ten "treatments." (Doc. No. 481, Matz Decl. Ex. 18, AIDA Compact Manual at K8004.) Luma appears to assert that "treatment" means a single image. (*See* Doc. No. 479 at 20) (stating that "[t]he AIDA allows the capturing of images temporarily, but requires the user to save them after 10 have been taken."). Luma's interpretation is nonsensical. As used in the AIDA Compact Manual, "treatment" means medical

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<sup>6</sup> The court assumes this is the document Luma ubiquitously cites as "claim chart" and which the Matz Declaration calls a "proof chart." (Doc. No. 481, Matz Decl. Ex. 1.)

procedure. As such, the AIDA Compact is capable of storing images from the previous ten procedures.

In its Proof Chart, Luma cites additional portions of the AIDA Compact Manual as support for its argument that the AIDA Compact contains a still frame buffer (Doc. No. 481, Matz Decl. Ex. 1, Proof Chart). Luma provides no cogent explanation for how these references support its argument, and the court can find none.

As with Stryker's products, the limited storage capacity of the AIDA Compact may render its "ring buffer" a temporary method of storage even though the images may reside on the storage medium indefinitely. This is a triable issue of fact. Accordingly, the court denies Luma's motion for summary judgment of infringement of Claims 44 and 45 by the AIDA Compact system. However, the court grants summary judgment to Karl Storz as to the Still Frame Buffer Claims because the court finds them to be invalid as stated in Part V.

### **(3) Karl Storz's AIDA DVD System**

Luma states that the AIDA DVD allows for long-term storage of images to DVD or CD. (Doc. No. 479 at 20.) Luma argues that this satisfies the "memory" element in Claim 44. In its Proof Chart, Luma cites portions of the AIDA DVD manual discussing its image capturing and image saving capabilities. (Doc. No. 481 Ex. 1 at 8.) The AIDA DVD Manual states that images are saved to a

hard drive until they are stored on DVD or CD. (Id. Ex. 19, AIDA DVD Manual at K8196.) Storage on the hard drive lasts according to the amount of time set for session expiration. (Id.) Images may be recovered until a new session begins. (Id.) Because storage time on the AIDA hard drive is limited to a given period of time (set by the session expiration option), the AIDA DVD contains a still frame buffer. Although the court suspects that the AIDA DVD contains an input and output device, Luma fails to prove it. As such, the court cannot find that Luma met its burden to show that the AIDA DVD infringes the Still Frame Buffer Claims and Luma's motion for summary judgment of infringement on Claims 44 and 45 is denied. However, the court grants summary judgment to Karl Storz as to those claims because the court finds them to be invalid as stated in Part V.

**c. Karl Storz's SCB/AIDA Compact and SCB/AIDA DVD System**

**i. Preference Database Claims**

Luma alleges that Karl Storz's SCB/AIDA Compact or SCB/AIDA DVD systems infringe all of the Preference Database Claims. (Doc. No. 479 at 13.) Luma's argument as to the combined devices is wholly dependent on its arguments as to the constituent devices. As discussed above, the court has already determined that SCB and AIDA devices have not been shown to infringe the Preference Database Claims. Luma never presents any evidence that the AIDA Compact or AIDA DVD infringes the Preference

Database Claims. However, to the extent that Luma argues that the AIDA, AIDA Compact, and AIDA DVD are alike, the court has already rejected Luma's argument that AIDA infringes the Preference Database Claims, as discussed in Part IV.B.3.b.i above.

Luma has failed to establish that the SCB/AIDA Compact and SCB/AIDA DVD infringe the Preference Database Claims. Accordingly, Luma's motion for summary judgment of infringement as to the Preference Database Claims must be denied. Karl Storz has presented evidence that the SCB/AIDA Compact and SCB/AIDA DVD do not contain a preference database and Luma has failed to raise any triable issue of fact to the contrary. As such, Karl Storz's motion for summary judgment of noninfringement as to Claims 14, 15, 17, 19, 29, 30, 32, and 34 is granted.

**ii. Still Frame Buffer Claims**

Luma alleges that Karl Storz's SCB/AIDA Compact or SCB/AIDA DVD systems infringe the Still Frame Buffer Claims. (Doc. No. 479 at 19.) Luma's arguments regarding the combination of these two devices are wholly dependent on its argument that Karl Storz's AIDA Compact and AIDA DVD systems infringe the Still Frame Buffer Claims. (Id. 13.) For the reasons stated in Part IV.B.3.b.ii above, the court rejected Luma's argument and found that a genuine issue of material fact remains as to whether Karl Storz's AIDA Compact system infringes the Still Frame Buffer

Claims. As to the AIDA DVD, the court found that Luma did not show that the device infringed the Still Frame Claims.

Accordingly, Luma's arguments about the combination of the AIDA Compact and AIDA DVD device with the SCB device must also fail. Moreover, the court grants summary judgment to Karl Storz as to Claims 44 and 45 because the court finds them to be invalid as stated in Part V.

**4. Karl Storz's Noninfringement of Claims 1-13, 16, 18, 20-28, 31, 33, 35-43, and 46-55**

**a. Case or Controversy**

A case or controversy exists with regard to Claims 1-13, 16, 18, 20-28, 31, 33, 35-43, and 46-55 ("Remaining Claims") because Karl Storz has a reasonable apprehension of being sued by Luma for infringement of them. Karl Storz moves for summary judgment of noninfringement of the Remaining Claims even though Luma no longer asserts them in this case. (Doc. No. 457.) Karl Storz sued for a declaratory judgment of noninfringement as to all the '801 Patent's claims from the outset. (Civil Action No. 1:02-1479, Doc. No. 1 ¶¶ 1, 22-23.) Luma responds that the court cannot rule on infringement of the Remaining Claims because there is no longer any case or controversy regarding them. (Doc. No. 502 at 3-5.)

To maintain a declaratory action, a case or controversy must exist throughout proceedings. Spectronics Corp. v. H.B. Fuller Co. Inc., 949 F.2d 631, 635 (Fed. Cir. 1991). To establish the

existence of a case or controversy, the accused infringer must show (1) that the patentee engaged in conduct giving rise to a reasonable apprehension on the accused infringer's part that it will face an infringement suit or the threat of one and (2) that the accused infringer actually produced the accused device.

Cordis Corp. v. Medtronic, Inc., 835 F.2d 859, 862 (Fed. Cir. 1987).

Once a reasonable apprehension of suit is raised, the patentee can remove it by making a covenant to drop previously asserted patent infringement claims. Fina Research, S.A. v. Baroid Ltd., 141 F.3d 1479, 1484 (Fed. Cir. 1998). The covenant must be sufficient to estop the patentee from asserting claims in the future. Id. (citing Super Sack Mfg. Corp. v. Chase Packaging Corp., 57 F.3d 1054, 1059 (Fed. Cir. 1995) and Spectronics, 940 F.2d at 636). The party seeking a declaratory judgment bears the burden of proving that an actual controversy exists. Id. at 1481. There is no dispute in this case that Karl Storz made accused products, so the court focuses on whether Karl Storz is in reasonable apprehension of Luma bringing or threatening to bring an infringement suit on the Remaining Claims.

In Fina Research, the Federal Circuit held that an accused infringer was under a reasonable apprehension of suit because the patentee had written demand letters alleging that the accused corporation's products infringed its patent. Fina Research, 141

F.3d at 1482-84. The patentee disavowed the letters but refused to promise that it would not file an infringement suit against the accused infringer based on the same patent. Id. at 1484.

This case is similar. In its Complaint, Luma put all 55 patent claims at issue. (Doc. No. 1 ¶ 14.) On April 21, 2003, in its first set of interrogatory responses, Luma indicated again that it intended to assert all the claims in the patent. (Doc. No. 453 Ex. C at 4.) Discovery was still proceeding, and it was reasonable for Luma to continue to assert those claims. Later, Luma indicated that it intended to assert only claims 14, 15, 17, 19, 29, 30, 32, 34, 44, and 45. (See Doc. No. 453 Exs. D & E.) However, Luma has rebuffed multiple requests to voluntarily dismiss the Remaining Claims, even though discovery closed long ago on April 9, 2004. (Doc. No. 453 Exs. F, G, H, I, & J.)

Luma's choice to pursue only the ten claims asserted in this action is insufficient to estop it from bringing or threatening to bring an infringement action against Karl Storz on the Remaining Claims as to Karl Storz's current or past products. Like the patentee in Fina Research, Luma refuses to make binding its apparent intention to abandon its infringement case against Karl Storz regarding the Remaining Claims. As such, because Luma remains free to press the Remaining Claims, Karl Storz is under a reasonable apprehension of suit, and a case or controversy regarding them exists. Thus, this court has jurisdiction to



consider Karl Storz's motion for summary judgment of noninfringement of the Remaining Claims.

**b. Noninfringement by Karl Storz of the Remaining Claims**

The court grants Karl Storz's motion for summary judgment of noninfringement as to the Remaining Claims (Doc. No. 457) because Luma has presented no evidence of any infringement of them. In order to proceed to trial, a claimant must produce evidence sufficient to allow a jury to return a verdict for that party. Avia Group Int'l, Inc. v. L.A. Gear Cal., Inc., 853 F.2d 1557, 1560 (Fed. Cir. 1988). If evidence is merely colorable, or is not significantly probative, summary judgment may be granted. Id. A movant is entitled to summary judgment when there is an absence of evidence to support the nonmoving party's case. Celotex Corp. v. Catrett, 477 U.S. 317, 325 (1986).

Luma has never moved for a finding of infringement of the Remaining Claims, and has presented no evidence in response to Karl Storz's motion. (See Doc. No. 502). Luma's argument rests solely on its contention that no case or controversy exists over the Remaining Claims despite its refusal to unequivocally withdraw them against Karl Storz. Accordingly, the court must grant summary judgment of noninfringement to Karl Storz regarding the Remaining Claims (Claims 1-13, 16, 18, 20-28, 31, 33, 35-43, and 46-55).

## **V. Validity**

### **A. Preference Database Claims**

As stated in Part IV, this court determined that the Preference Database Claims were not infringed by either defendant. This court may elect either to decide validity challenges to noninfringed claims on the merits or dismiss them without prejudice. Liquid Dynamics Corp. v. Vaughan Co., 355 F.3d 1361, 1370-71 (Fed. Cir. 2004); see also Korszun v. Pub. Techs. Multimedia, Inc., 96 F. App'x 699, 700 (Fed. Cir. 2004) (listing four options for disposing of validity challenges to noninfringed patent claims). In its discretion, this court elects to dismiss without prejudice Luma, Stryker, and Karl Storz's motions for summary judgment on the validity of the Preference Database Claims.<sup>7</sup>

### **B. Still Frame Buffer Claims**

A genuine issue of material fact remains as to whether Stryker's SDC Pro/Hermes and SDC Pro 2 and Karl Storz's AIDA Compact infringe the Still Frame Buffer Claims. As such, the court proceeds to the question of whether the Still Frame Buffer Claims are valid. Stryker argues that the Still Frame Buffer Claims are anticipated by the Ultramark 5 System under the On-Sale Bar rule. (Doc. No. 469 at 5-14.) Karl Storz argues that

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<sup>7</sup> Stryker's motion for summary judgment of invalidity was contingent on a finding of infringement.

they are invalid because they disclose merely "freeze-and-capture" technology, which Karl Storz argues was widely known in prior publications, including the Little Patent (U.S. Patent No. 4,922,909). (Doc. No. 452 at 13-21.)

### **1. Applicable Law**

A patent is presumed valid. 35 U.S.C. § 282. Each claim is presumed valid independent of the validity of the patent's other claims. Id. The challenger bears the burden to show by clear and convincing evidence that each claim is invalid. Oakley, Inc. v. Sunglass Hut Int'l, 316 F.3d 1331, 1339 (Fed. Cir. 2003). There are three basic attacks to patent claim validity: lack of novelty, obviousness, and lack of utility. Only obviousness and lack of novelty are alleged here.

As to evidence reviewed by the patent examiner, the U.S. Patent and Trademark Office ("PTO") is due the deference of a qualified government agency presumed to have properly done its job. Am. Hoist & Derrick Co. v. Sowa & Sons, Inc., 725 F.2d 1350, 1359-60 (Fed. Cir. 1984). However, for evidence not considered by the examiner, the PTO is owed no deference. Id. The burden of proof always remains on the challenger and the standard of proof remains that of clear and convincing evidence. Id.

**a. Novelty**

To be valid, the subject matter of the patent must be new. A product or process is not new if all the claimed elements are disclosed in a single piece of relevant prior art. Teleflex, Inc. v. Ficosa N. Am. Corp., 299 F.3d 1313, 1335 (Fed. Cir. 2002). If this is the case, the prior art is said to "anticipate" the claimed product or process. ATD Corp. v. Lydall Inc., 159 F.3d 534, 545 (Fed. Cir. 1998).

A product or process may be anticipated by prior publication anywhere or by offer for sale ("On-Sale Bar") in this country before the "critical date," which is one year prior to the effective patent application. 35 U.S.C. § 102(b). To show anticipation by prior publication, the reference must disclose the patentee's claimed invention sufficiently to enable one skilled in the art to practice the invention without undue experimentation. Novo Nordisk Pharms., Inc. v. Bio-Tech. Gen. Corp., 424 F.3d 1347, 1355 (Fed. Cir. 2005).

To establish invalidity under the On-Sale Bar, the challenger must show (1) that the product was the subject of a commercial offer for sale in the United States and (2) that it embodies each and every element of the asserted claims. 35 U.S.C. § 102(b). The court need not make an enablement inquiry under the On-Sale Bar. In re Epstein, 32 F.3d 1599, 1567-68 (Fed. Cir. 1994). The On-Sale Bar applies to sales pre-dating

the critical date by third parties as well as by the patentee. In re Caveney, 761 F.2d 671, 676 (Fed. Cir. 1985). Anticipation in either form is a question of fact. In re McDaniel, 293 F.3d 1379, 1382 (Fed. Cir. 2002).

**b. Obviousness**

To be valid, the subject matter of the patent must be nonobvious. Patented subject matter is obvious if the differences between it and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person with ordinary skill in the art. 35 U.S.C. § 103(a). Nonobviousness is a question of law but it is supported by a number of factual determinations, which the challenger must establish by clear and convincing evidence. SIBIA Neurosciences v. Cadus Pharm., 225 F.3d 1349, 1355 (Fed. Cir. 2000). To avoid the use of hindsight, the court must view the patent claims (1) from the moment just before the invention was made and (2) from the perspective of a person with ordinary skill in the art who does not know the invention. W. L. Gore & Assocs., Inc. v. Garlock, Inc., 721 F.2d 1540, 1553 (Fed. Cir. 1983).

Before the court may determine nonobviousness, the trier of fact must resolve several factual determinations: (1) the scope and content of the prior art, (2) the differences between the prior art and the claims at issue, (3) the level of ordinary

skill in the pertinent art, (4) the effect, if any, of certain secondary considerations (mostly economic and motivational), and (5) the extent to which there is a motivation, suggestion, or teaching to modify or combine prior art. Graham v. John Deere Co., 383 U.S. 1, 17 (1966) (explaining elements one through four); SIBIA Neuroscience, 225 F.3d at 1356 (applying element five to a single piece of prior art); In re Shaffer, 229 F.2d 476, 479 (C.C.P.A. 1956) (applying element five to multiple pieces of prior art).

## **2. Analysis**

### **a. Critical Date**

The earliest possible critical date is March 31, 1992. The patent application that resulted in the '801 patent was a continuation-in-part of an earlier application, which was filed on March 31, 1993. (Doc. No. 1 Ex. A at cover.) To invalidate patent claims, relevant art must predate the patent effective filing date by one year. 35 U.S.C. § 102(b); In re Wertheim, 646 F.2d 527, 533-34 (C.C.P.A. 1981) (holding that the effective patent filing date relates back to previously filed patent applications to the extent that previous applications disclose disputed claims). At most, prior art must predate the critical date of March 31, 1992.

**c. Ultramark 5**

Stryker alleges that the Ultramark 5 system made by Advanced Technology Laboratories ("ATL") anticipates the Still Frame Buffer Claims because it discloses each and every element of them. The Ultramark 5 is an ultrasound imaging system. (Doc. No. 469 Ex. C at ATL049.) It was sold in January 1989, prior to the critical date. (Id. at 13) (citing id. Ex. F. Harmer Dep. at 13, 16, 19:8-20, 21:14-25, 23:16-24, 25:15-26:3).

Stryker has presented sufficient evidence to establish that the Ultramark 5 (1) is a system for acquiring images during a medical procedure, (2) contains an output device, and (3) contains a memory. (See id. at 5, 6-7, 9-11.) Luma does not appear to dispute these elements. (See Doc. No. 497.) The parties dispute whether the Ultramark 5 contains an input device, a still frame buffer, and the associated processor as those terms are used in the Still Frame Buffer Claims. The court will take each of the elements of the Still Frame Buffer claims in turn.

As discussed below, Stryker has presented clear and convincing evidence that the Ultramark 5 anticipated each and every element of Claim 44, and Luma failed to raise a genuine issue of fact to the contrary. Accordingly, the court hereby

finds that Claims 44 and 45 are invalid pursuant to 35 U.S.C. § 102(b) for lack of novelty.<sup>8</sup>

#### **i. Input Device**

The court has construed "input device" to mean "a device for generating, obtaining or acquiring an image during a medical procedure." (Doc. No. 433 at 31.) The Ultramark 5 Manual states that the device contains several different types of scanheads and transducers which Rick Dugan of ATL testified obtain images. (Doc. No. 469 Ex. E at 41:10-42:5; Doc. No. 517 at 5-6.) Mr. Dugan is ATL's corporate designee. He was involved in the development of the Ultramark 5, was responsible for reviewing the Ultramark 5 Manual before it was published, and has used the Ultramark 5. (Doc. No. 517 Ex. M at 5:12-18, 6:4-7:15, 34:5-36:4.)

Luma argues that because the scanheads project sound waves and record their echos, they do not "acquire images" within the meaning of the '801 Patent. (Doc. No. 497 at 8-11.) Luma produces an admissible expert declaration to this effect. (See id. Attach. 3, Hossack Decl. ¶¶ 15-16.) Mr. Hossack explains that ultrasound scanheads emit acoustic pulses and receive their

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<sup>8</sup> Claim 45 is dependent on Claim 44 and therefore is also invalid. Wolverine World Wide Inc. v. Nike Inc., 32 U.S.P.Q.2d 1338, 1342 (Fed. Cir. 1989) (stating that when an independent claim was not infringed, its dependent claims were not infringed as a matter of law).



echos. (Id. ¶ 15.) A separate device translates that data into a viewable image. (Id. ¶ 16.)

Luma's argument rests largely on the level of abstraction of its viewpoint. Luma demonstrates adequately that the scanhead itself does not convert ultrasonic echos into image data, but the Ultramark 5 Manual makes clear that the system as a whole does convert those echos into images. (See Doc. No. 497, Attach. 3 ¶ 15-16.) As Luma points out, the scanhead accomplishes the first step of the process. Luma has presented no law requiring that a claim element be satisfied by a single part of a prior art system. The fact that ultrasound devices must use multiple devices to acquire sound waves and convert them into images does not detract from the evidence that the Ultramark 5 actually does perceive sound waves and convert them into images.<sup>9</sup> Moreover, under a reverse infringement analysis, if the Ultramark 5 were an accused device, it would infringe the input device element of the Still Frame Buffer Claims.

Most persuasive is the fact that the patent specification specifically lists an ultrasound scanner as a type of input device. (Doc. No. 1 Ex. A Col. 6 Ln. 10-19.) Taken together,

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<sup>9</sup> Indeed, as Mr. Nutter testified at the Markman hearing, a camera, a specified embodiment of an input device, acquires images by receiving light waves and translating them into digital data. (Doc. No. 414 at 122.) Ultrasound devices acquire images by receiving acoustic echos and translating them into digital data. (Id. at 124.) It is not apparent to the court why this distinction makes a difference in this case.

the Ultramark 5 Manual, Mr. Dugan's testimony, and the specification are clear and convincing evidence that the Ultramark 5 system contains an input device within the meaning of the '801 Patent.

**ii. Output Device**

This court has construed "output device" to mean "a device for using images obtained by the input device to enable image data to be communicated to a user of the system . . . ." (Doc. No. 433 at 35.) The Ultramark 5 Manual states that the system contains a monitor and Mr. Dugan's testimony establishes that the monitor was used for displaying images acquired by the system. (Doc. No. 469 Ex. C at ATL049; id. Ex. E at 42:7.) Luma does not appear to dispute this evidence. As such, the court finds that Stryker has produced clear and convincing evidence that the Ultramark 5 contains an output device within the meaning of the '801 Patent.

**iii. Still Frame Buffer and Processor**

"Still frame buffer" has been construed to mean "storage for digital image data for a given period of time." (Doc. No. 433 at 53.) Stryker argues that the Ultramark 5's freezing capability ("FRZ" button) allows it to store a frozen image temporarily. (Doc. No. 469 at 7-9.) While an image is frozen, it can be stored, annotated, or measured. Mr. Nutter offers the expert

opinion that an image frozen by the Ultramark 5 is stored temporarily. (Doc. No. 468 ¶ 21.)

Luma argues that the Still Frame Buffer Claims require that an image stored in the still frame buffer remain there until after the procedure is complete to allow the operator an unhurried opportunity to evaluate images and select desirable ones for long-term storage. (Doc. No. 497 at 11-12.) Luma relies on the inventor, Dr. Branson's testimony. (*Id.*) (citing Doc. No. 414, Markman Hr'g Tr. at 30:19-31:10). This argument is an attempt to add limitations to the still frame buffer element of Claim 44. While Dr. Branson's system marketed by Luma may carry such functionality, Claim 44 does not require "temporary" storage to extend for such a long period of time, and the court will not impose such a limitation now. See Zenith Labs., Inc. v. Bristol-Myers Squibb Co., 19 F.3d 1418, 1423 (Fed. Cir. 1994) ("[I]t is error for a court to compare in its infringement analysis the accused product or process with the patentee's commercial embodiment or other version of the product or process; the only proper comparison is with the claims of the patent.")

Luma adds that the images are not "stored" when the freeze command is initiated because an image cannot be retrieved once it is unfrozen. (Doc. No. 497 at 12-13.) Luma relies on an inadmissible expert declaration to this effect from Mr. Johnston. (*Id.*, Attach. 2 ¶ 11.) Even if admissible, the Johnston

declaration would merely offer the opinion that an image cannot be retrieved from its frozen state after the image has been unfrozen and that the term "storage" indicates retrieval capability. (Id. Attach. 2 ¶.) Luma's argument fails because it rests on the assumption that Claim 44 requires temporary storage in the still frame buffer to exceed the duration of a medical procedure, a limitation not found in Claim 44 nor described in the specification.

The Ultramark 5 Manual and Mr. Nutter's expert testimony about it indicate that the Ultramark 5 can store images temporarily while performing certain operations on them, like measurement, annotation, or long-term storage, and can retrieve them until they are unfrozen. This is clear and convincing evidence that the Ultramark 5 discloses a still frame buffer configured for temporary storage.

#### **iv. Memory**

"Memory" is construed to mean "a device for storing information or data." Stryker argues that the STORE command indicates the presence of a memory. The STORE command "stores the full-sized ultrasound image and its annotation in the system's memory." (Doc. No. 469 Ex. C at ATL094.) Mr. Nutter provided expert opinion that this feature allows the user to save an image to a memory on a long-term basis. (Doc. No. 468 ¶ 26.) Luma does not appear to dispute this evidence. The court finds

that Stryker has presented clear and convincing evidence that the Ultramark 5 discloses a memory for long-term storage.

#### **v. Processor**

The court construed "processor" to mean "a central processing unit in a computer for processing data and executing a program." (Doc. No. 433 at 47.) Surrounding claim language requires that the processor be capable of receiving a freeze command for temporary storage and a save command for long-term storage. (Doc. No. 1 Ex. A Col. 50 Ln. 36-39.) The Ultramark 5 system's ability to freeze an image temporarily and then save it to a memory indicates the presence of a processor for accomplishing those tasks. (See Doc. No. 469 Ex. C at ATL049, ATL076, & ATL094; Doc. No. 468 ¶ 31-34.) Except to the extent that it disputes the presence of a still frame buffer in the Ultramark 5, Luma does not appear to dispute this evidence. Stryker has shown clear and convincing evidence that the Ultramark 5 contains a processor.

#### **b. Little Patent**

Karl Storz argues that the Little Patent<sup>10</sup> (U.S. Patent No. 4,922,909) anticipates the Still Frame Buffer Claims because it discloses each and every element of them, and asks this court to

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<sup>10</sup> When comparing the Little Patent to the '801 Patent to evaluate validity, the court need not defer to the PTO because the patent examiner did not consult the Little Patent before allowing Claims 44 and 45. Am. Hoist & Derrick Co. v. Sowa & Sons, Inc., 725 F.2d 1350, 1359-60 (Fed. Cir. 1984).

invalidate the Still Frame Buffer Claims pursuant to 35 U.S.C. § 102(b). (Doc. No. 452 at 14) (citing Doc. No. 453, Ex. D, Little Patent). Karl Storz explains how the Little Patent, which was issued on May 8, 1990, discloses a system for freezing and saving images during a medical procedure. (Id. at 13-21.)

Luma does not appear to dispute that the Little Patent discloses a system with an input device, output device, and memory within the meaning of the '801 Patent. (See Doc. No. 499.) The Little Patent discloses a system using an input device and output device. The Little specification describes a video camera that acquires "highly magnified images," which constitutes an input device. (Doc. No. 453 Ex. D Col. 5 Ln. 21-25.) The Little specification discloses an output device. It describes a monitor apparatus which receives and displays images from a camera and from two image memories. (Id. Ex. D. Col. 5 Ln. 13-14 & 30-34, Col. 6 Ln. 26-29.) The memory disclosed in the Little Patent consists of a hard drive or floppy disk to which the system can store images. (Id. Ex. D Col. 5 Ln. 30-42.)

The heart of the controversy is whether the Little Patent discloses a still frame buffer, its associated processor, and a processor with the image toggling capability disclosed in Claim 45. Karl Storz argues that the "frame grabber" and a separate "buffer memory" in the Little Patent disclose still frame buffers within the meaning of the Still Frame Buffer Claims. (Doc. No.

452 at 17-19.) The Little Patent's frame grabber digitizes images received from the camera so that they can be seen on a monitor and stored on a hard drive or floppy disk. (Doc. No. 453 Ex. D. Col. 5 Ln. 21-37.) The frame grabber stores them temporarily in "IMAGE 1" and "IMAGE 2" memories. (Id. Ex D. Col. 6 Ln. 6-7) ("[T]he real time image is digitized into two image memories (designated 'IMAGE 1' and 'IMAGE 2.'").

The processor can receive a freeze command and digitization of new images stops. (Id. Ex. D Col. 6 Ln. 57 - Col. 7 Ln. 2.) This means that the image on the screen is frozen in IMAGE 1 or IMAGE 2 memory. (Id. Ex. D Col. 7 Ln. 25-29.) As such, the image is frozen in IMAGE 1 or IMAGE 2 temporarily. From there, the image can be saved or discarded. Pressing F1 saves the display memory (IMAGE 1 and IMAGE 2) only, pressing the space bar saves both display memory and buffer, and pressing F2 saves the buffer only. (Id. Ex. D Col. 10 Ln. 33-64.) The evidence shows that the processor in the Little Patent can take the images frozen in IMAGE 1 and IMAGE 2 and save them in long-term memory.

Luma argues that IMAGE 1 and IMAGE 2 do not constitute still frame buffers. Luma attempts to add additional limitations to the still frame buffer element of Claim 44. Luma argues that Claim 44 discloses a still frame buffer which stores images until a procedure is complete so that the surgeon can decide which images to store long-term after time-sensitive surgery is

complete. (Doc. No. 499 at 11.) While Dr. Branson's system marketed by Luma may carry such functionality, Claim 44 does not require "temporary" to extend for such a long period of time, and the court will not impose such a limitation now. See Zenith Labs., Inc. v. Bristol-Myers Squibb Co., 19 F.3d 1418, 1423 (Fed. Cir. 1994).

Luma adds that the images are not "stored" in IMAGE 1 and IMAGE 2 because they cannot be retrieved from those memories once real-time operation is resumed. (Doc. No. 499 at 12, 14-15.) Luma does not argue that images cannot be retrieved from IMAGE 1 and IMAGE 2 at all. Luma merely argues that images cannot be retrieved from those memories after real-time operation is resumed. Again, Luma's argument must be rejected because it rests on the assumption that Claim 44 requires temporary storage in the still frame buffer to exceed the duration of a medical procedure, a limitation not found in the '801 Patent's claims nor described in the specification.<sup>11</sup> Images can be stored in IMAGE

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<sup>11</sup> The portion of the specification discussing the '801 Patent's freeze and save capability is vague as to the duration between freezing and saving. As such, it describes both systems that freeze and save during a procedure and systems that can freeze and then save after a procedure. Specifically, the specification states:

A single button press can take a snapshot of the current information on the screen and transfer it to a memory media as a digital file. This system provides additional logic to allow toggle between "freeze" and "live" until the desired image is frozen. The image



1 and IMAGE 2 and can be retrieved from there and saved onto a long-term memory before real-time mode is resumed. This is enough to satisfy the processor element of Claim 44.

As such, Karl Storz has shown by clear and convincing evidence that IMAGE 1 and IMAGE 2 disclose a still frame buffer within the meaning of the Still Frame Buffer Claims. Karl Storz shows by clear and convincing evidence that the processor disclosed in the Little Patent can freeze images and later save them on a long-term memory. Thus, the Little Patent discloses each and every element of Claim 44, which the court hereby finds to be invalid for lack of novelty pursuant to 35 U.S.C. 102(b). Because Claim 45 is dependent on Claim 44, it too is invalid. Wolverine World Wide Inc. v. Nike Inc., 32 U.S.P.Q.2d 1338, 1342 (Fed. Cir. 1989) (stating that when an independent claim was not infringed, its dependent claims were not infringed as a matter of law).

## **VI. Conclusion**

For the reasons stated above, the court finds that the Preference Database Claims (Claims 14, 15, 17, 19, 29, 30, 32, and 34) were not infringed. A triable issue of fact remains as to whether the Still Frame Buffer Claims (Claims 44 and 45) were

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can then be saved to memory by executing save command 120. Thus, the surgeon can elect to save or discard any image.

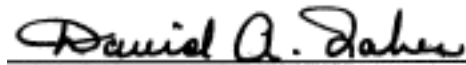
(Doc. No. 1 Ex. A Col. 16 Ln. 18-25.)

infringed. However, the court finds the Still Frame Buffer Claims to be invalid as anticipated by prior art. Accordingly, summary judgment is granted to defendants Stryker and Karl Storz.

The Clerk is directed to send copies of this Memorandum Opinion to all counsel of record.

IT IS SO ORDERED this 24th day of July, 2006.

ENTER:

A handwritten signature in black ink, reading "David A. Faber", is written over a horizontal line.

David A. Faber  
Chief Judge